

America's Children and the Environment: Children's Environmental Health Indicators

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Collaborators

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America's Children and the Environment

- EPA's series of reports on key indicators reflecting children's health and the environment
 - Compiles data relevant to children's environmental health in one document
 - Key measures depicting trends in environmental factors related to children's health in the US
- Translate data and science into information that is useful to policymakers, public, & stakeholders

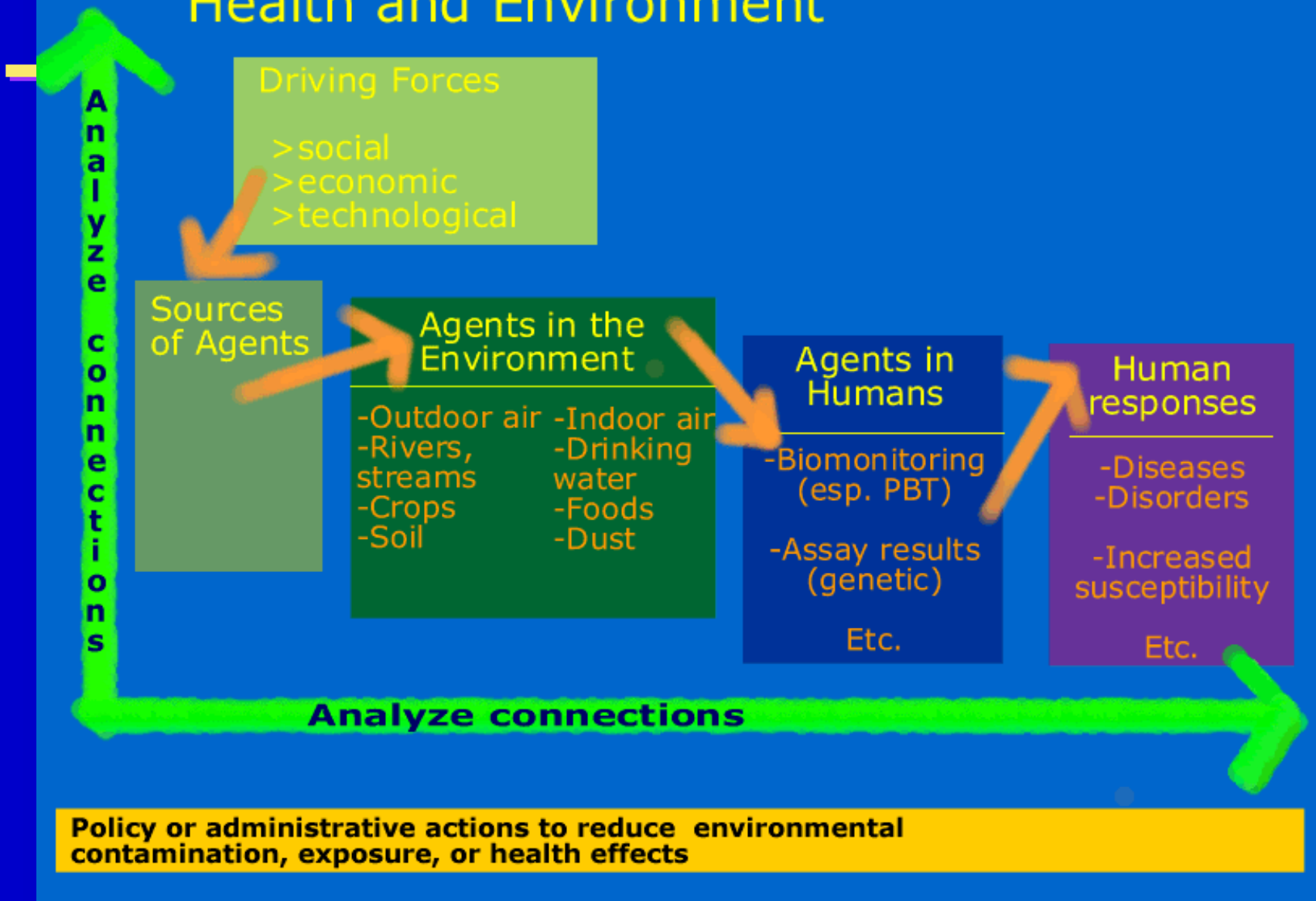
National measures for

- Environmental contaminants
 - Levels of environmental contaminants that are likely to affect children's health
 - Outdoor air pollution, indoor air pollution, drinking water contaminants, food contaminants, land contaminants
- Body burdens
 - Key contaminants measured in the bodies of children and women
 - Concentrations of lead and cotinine in the bodies of children, and mercury in the bodies of women of childbearing age
- Diseases and disorders
 - Illnesses for which there is reason to believe that environmental exposures may play a role
 - Asthma and other respiratory diseases, childhood cancer, attention-deficit/hyperactivity disorder, and mental retardation

Making the link

- Show related measures between groups
 - Important to show connections between contaminants and health
 - Important to show even if relationships cannot be fully proven or quantified
- Show related Healthy People 2010 objectives

Elements of Approach to Understanding Health and Environment



Key questions

- Is it changing over time?
 - Why?
- Are there certain populations at risk?
 - Is it different in different geographic areas?
 - Are there differences by race/ethnicity?
 - Are there differences by socio-economic status?

Selection of measures

- Measures selected based on the following criteria
 - Must be relevant to children's environmental health
 - Must have available data
 - Must have nationally representative data

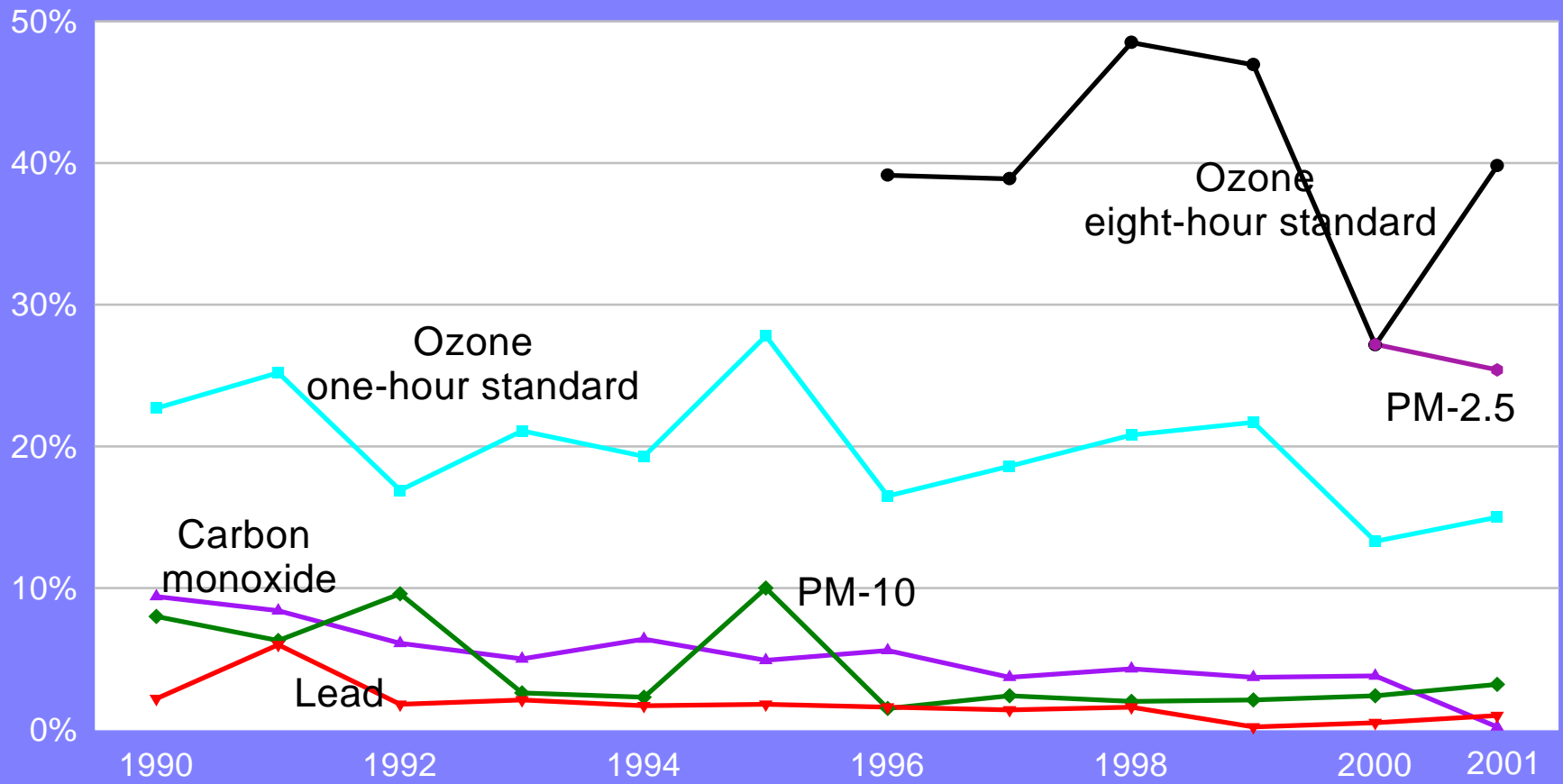
Process

1. Select environmental conditions and health outcomes of greatest relevance
2. Identify **best available** data
3. Develop **most informative** measures
4. Decide which measures are related
5. Identify limitations, data needs, future directions

Criteria Air Pollutants - Exceedance of Standards

Measure E1

Percentage of children living in counties in which air quality standards were exceeded

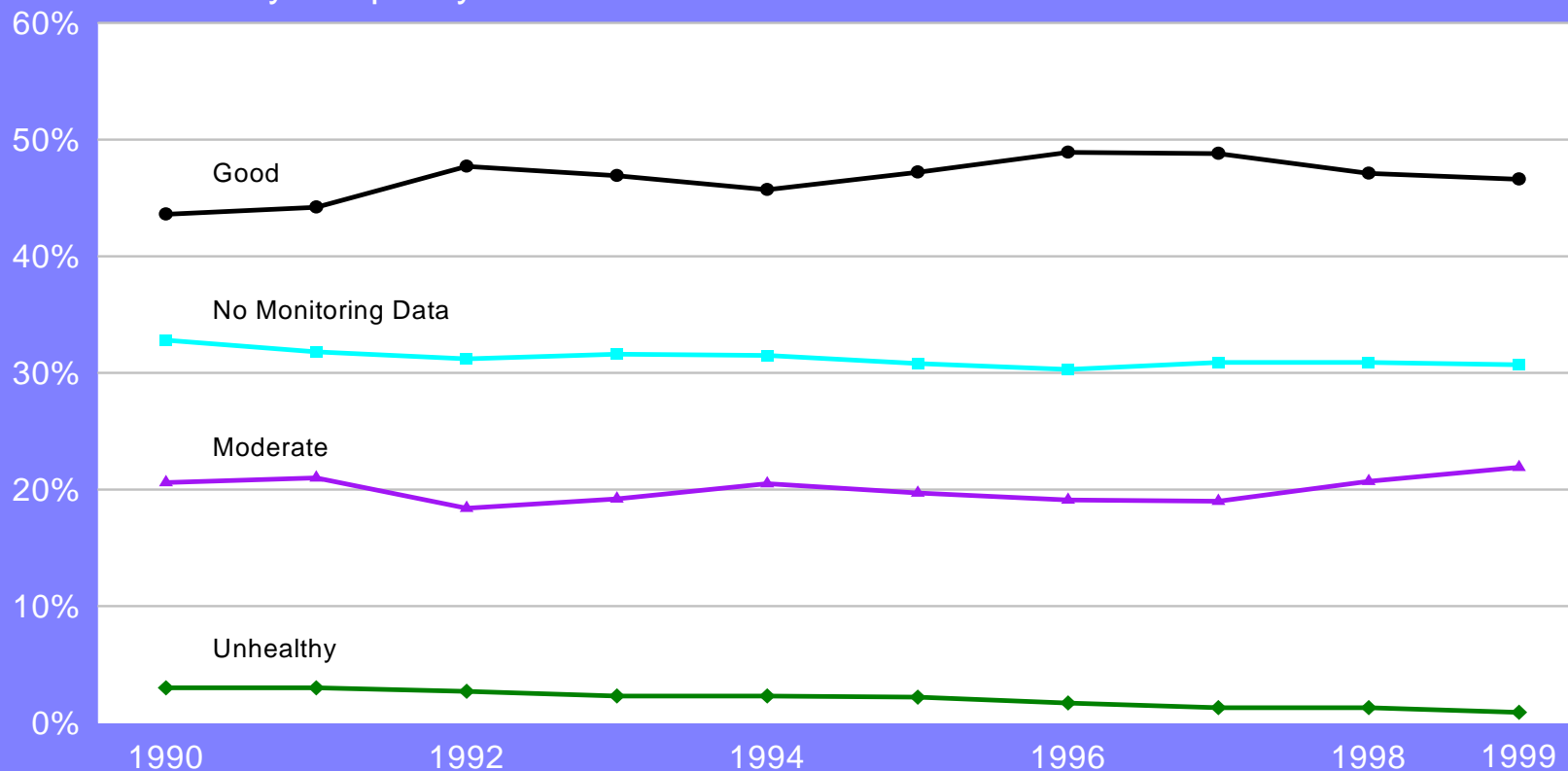


SOURCE: America's Children and the Environment, www.epa.gov/envirohealth/children
DATA: U.S. Environmental Protection Agency, Office of Air and Radiation, Aerometric Information Retrieval System

Children's air days

Measure E2

Percentage of children's days with good, moderate, or unhealthy air quality



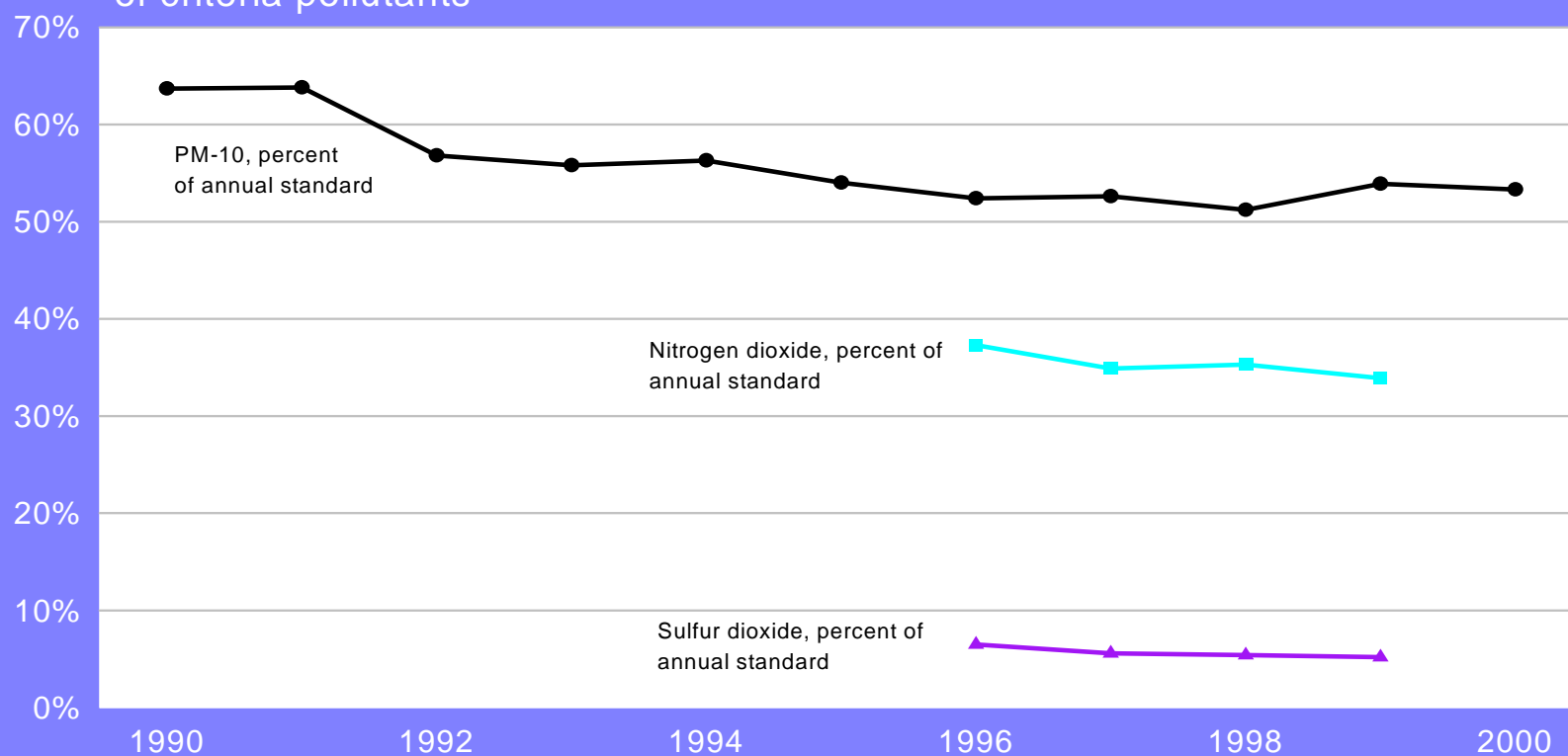
SOURCE: America's Children and the Environment, www.epa.gov/envirohealth/children

Data: U.S. Environmental Protection Agency, Office of Air and Radiation, Aerometric Information Retrieval System

Long-term measures criteria air pollutants

Measure E3a

Long-term trends in annual average concentrations of criteria pollutants

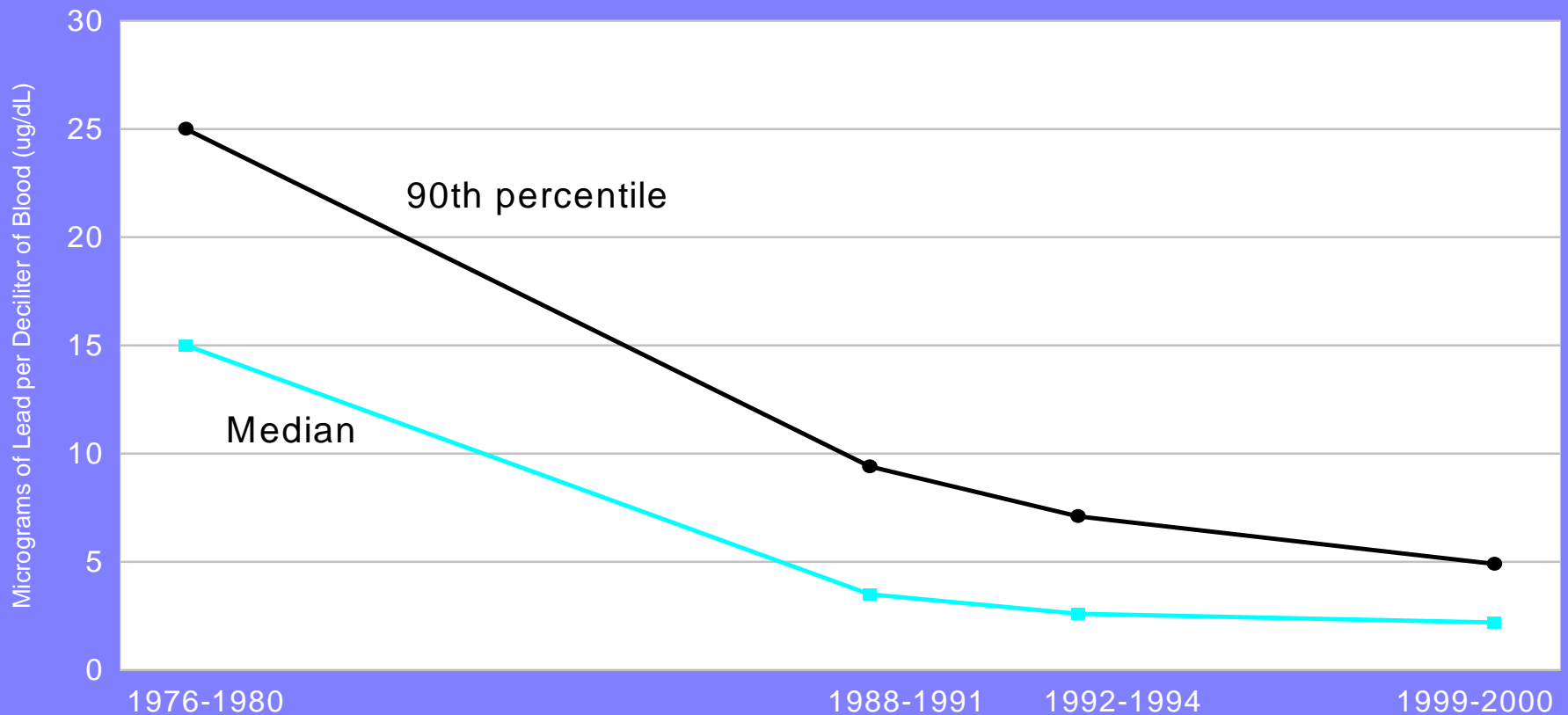


SOURCE: America's Children and the Environment, www.epa.gov/envirohealth/children
Data: U.S. Environmental Protection Agency, Office of Air and Radiation, Aerometric Information Retrieval System

Lead body burdens

Measure B1

Concentrations of lead in blood of children ages 5 and under

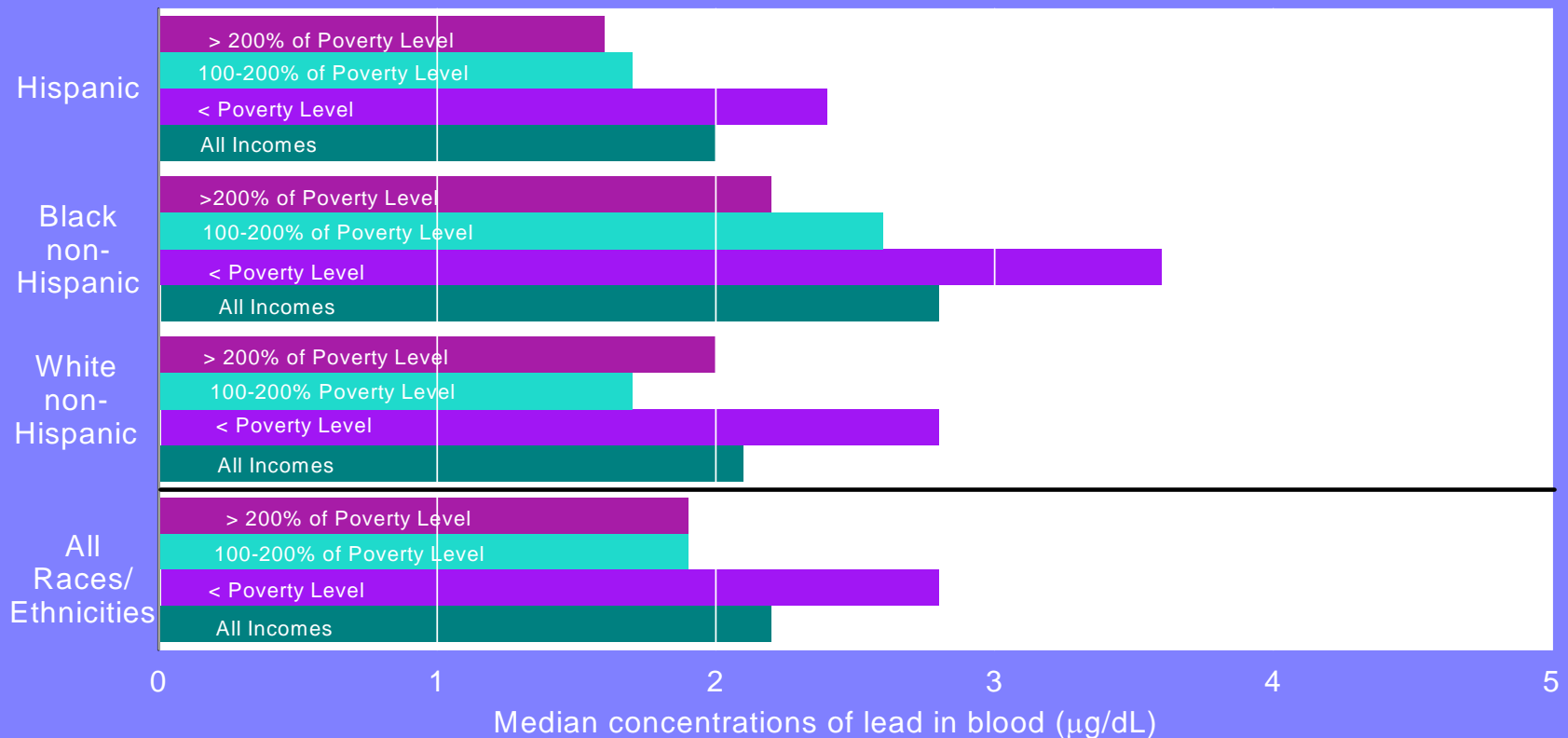


SOURCE: America's Children and the Environment, www.epa.gov/envirohealth/children
DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey

Blood lead by race/ethnicity and income

Measure B2

Median concentrations of lead in blood of children ages 1-5, by race/ethnicity and family income, 1999-2000

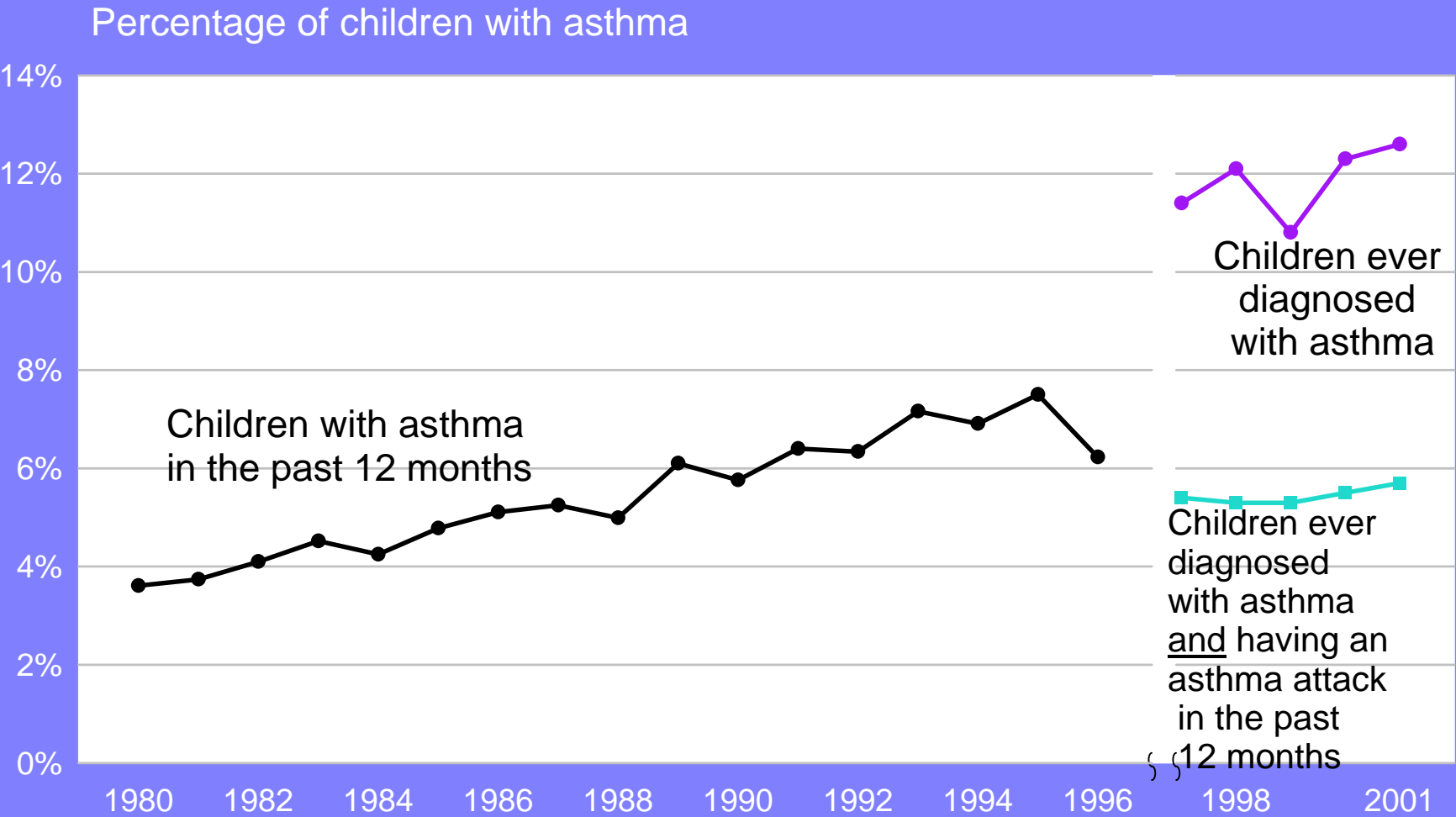


SOURCE: America's Children and the Environment, www.epa.gov/envirohealth/children

Data: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey

Asthma Prevalence

Measure D1



SOURCE: America's Children and the Environment www.epa.gov/envirohealth/children

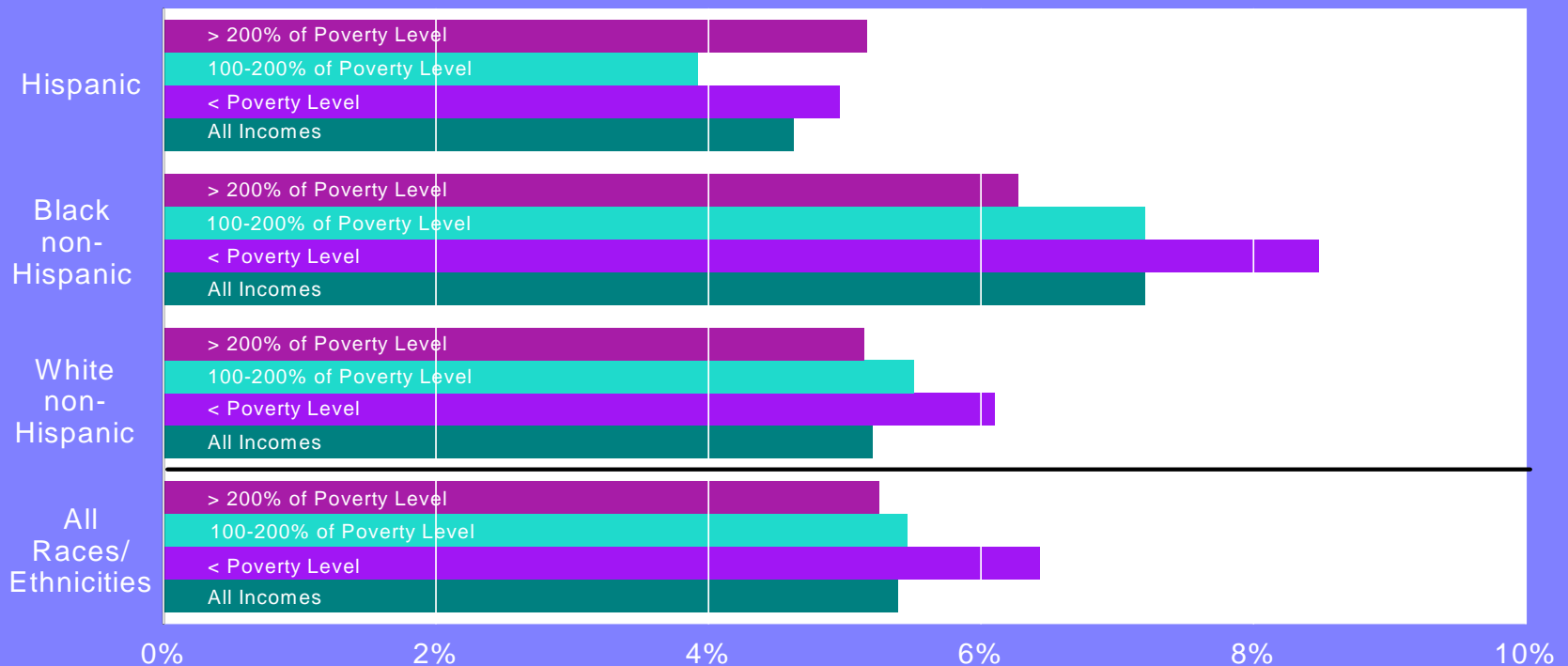
DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

Note: The survey questions for asthma changed in 1997; data before 1997 cannot be directly compared to data in 1997 and later.

Asthma, race and income

Measure D2

Percentage of children having an asthma attack in the previous 12 months, by race/ethnicity and family income, 1997-2000



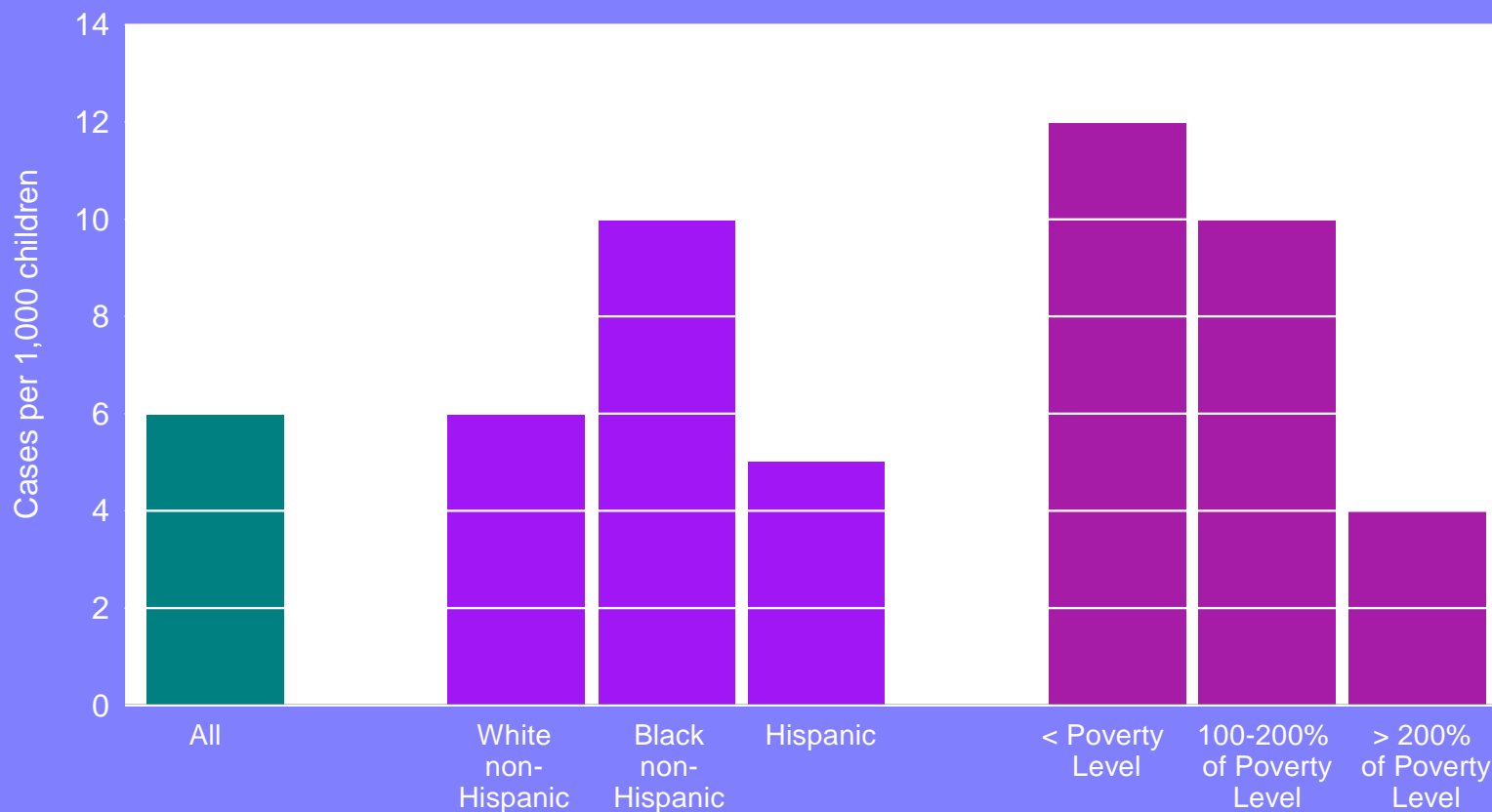
SOURCE: America's Children and the Environment, www.epa.gov/envirohealth/children

Data: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

Mental retardation

Measure D7

Children reported to have mental retardation, by race/ethnicity and family income, 1997-2000



SOURCE: America's Children and the Environment, www.epa.gov/envirohealth/children

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

Opportunities and challenges

- Provides a means of measuring progress and areas for intervention
- Illustrates data needs
 - New methods/new data sources
 - New data collection
- Many measures incomplete
 - Surrogate information
 - Do not distinguish between different exposure levels
 - Snapshots rather than trends
 - Important to show something

AMERICA'S CHILDREN AND THE ENVIRONMENT

Measures of Contaminants, Body Burdens, and Illnesses



<http://www.epa.gov/envirohealth/children>